

AIR QUALITY ELEMENT

INTRODUCTION

Throughout much of Southern California, air quality does not meet federal standards. Poor air quality results in potential health hazards and often produces a hazy, unattractive ceiling of smog above the basin. Unlike most of Southern California, Temecula's air quality is very good. Air quality monitoring in Temecula in the early 1990's indicated that days with air quality standard violations were rare. This is due to the Lake Elsinore Convergence Zone, where coastal winds block air pollutants from the rest of the South Coast Air Basin. These conditions provide an environment where residents can breathe clean, fresh air, improving the quality of life. The City can do its part to improve regional air quality through effective land use planning, automobile trip reduction strategies, energy conservation, and participation in regional efforts to achieve measurable air quality improvements.

PURPOSE OF THE AIR QUALITY ELEMENT

The Air Quality Element establishes a policy foundation to implement local air quality improvement measures and provides a framework for coordination of air quality planning efforts with surrounding jurisdictions.

SCOPE AND CONTENT OF THE AIR QUALITY ELEMENT

Preparation of an Air Quality Element is not required under State law, but the Government Code authorizes cities and counties to adopt additional elements as deemed relevant and necessary. State General Plan Guidelines include air quality as a suggested topic in both the Circulation and Safety Elements. The South Coast Air Quality Management District (SCAQMD) also recommends that jurisdictions adopt an Air Quality Element to implement control measures. If a jurisdiction prepares an optional Air Quality Element, that element must be consistent with the other General Plan elements.



AIR QUALITY

COMMON AIR POLLUTANTS

Temecula lies within the South Coast Air Basin, a geographic area that extends from the Pacific Ocean to the San Jacinto Mountains on the east, and south from the San Gabriel Mountains. The three pollutants of greatest concern within the South Coast Air Basin are carbon monoxide, ozone (which is formed when sunlight reacts with pollutants), and particulate matter. These pollutants and associated health effects are described below.

- **Carbon Monoxide (CO)** is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is an odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the blood stream where it interferes with the transfer of oxygen to body tissues.
- **Ozone (smog)** is formed by photochemical reactions between nitrogen oxide (NO_x) and reactive organic gases, rather than being directly emitted. Ozone is a pungent, colorless gas typically found in Southern California smog. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors, such as the sick, elderly and young children. Ozone levels peak during the summer and early fall months.
- **Particulate Matter (PM₁₀)** refers to small suspended particulate matter with an aerodynamic diameter of ten microns or less which is not readily filtered by the lungs. Nitrates and sulfates, as well as dust particulates, are major components of PM₁₀. These small particles can be directly emitted into the atmosphere as a by-product of fuel combustion, through abrasion such as wear on tires or brake linings, or through fugitive dust (wind erosion from soil and dirt roads). They can also be formed in the atmosphere through chemical reactions. Particulates may carry carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

RELATED PLANS AND PROGRAMS

A number of related plans and programs administered by federal, State, and special purpose agencies support or influence the goals of the Air Quality Element.



FEDERAL CLEAN AIR ACT

The Federal Clean Air Act, enacted in 1970 and amended thereafter, establishes the framework for air pollution control. The Act directs the Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) for six pollutants: ozone, carbon monoxide, lead, nitrogen dioxide, particulate matter, and sulphur dioxide. These standards are set at a level that protects public health and welfare. Areas exceeding the federal standards more than two times per year are designated "nonattainment" areas. Such areas are subject to more stringent planning and pollution control requirements.

States are required to submit a State Implementation Plan (SIP) for areas that exceed the NAAQS. The SIP must demonstrate how the NAAQS will be achieved. Failure to submit a plan or secure approval could lead to denial of federal funding or permits for infrastructure requiring federal approval.

CALIFORNIA CLEAN AIR ACT

The California Clean Air Act (CCAA, 1988) establishes standards for the six federal criteria pollutants, as well as for hydrogen sulphide, sulphate and vinyl chloride. State standards for these nine pollutants are more stringent than federal standards. The CCAA requires regional emissions to be reduced by five percent per year, averaged over a three-year period, until attainment can be demonstrated. Each region that does not meet a national or State air quality standard is required to prepare a plan that demonstrates how the 5-percent reduction is to be achieved. The California Air Resources Board (CARB) and local air pollution control districts are responsible for ensuring that State standards will be achieved within designated timeframes.

SOUTH COAST AIR QUALITY MANAGEMENT PLAN

In response to regional planning requirements of the California Clean Air Act, the South Coast Air Quality Management Plan (AQMP) is the primary planning tool for achieving State and federal air quality standards. The AQMP carries out federal and State mandates with respect to air quality standards through a series of control measures which are aimed at reducing pollutants from a specific source. The plan for the South Coast Air Basin, which includes Western Riverside County, was prepared by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG).



AIR QUALITY

WESTERN RIVERSIDE SUB-REGIONAL AIR QUALITY IMPLEMENTATION PROGRAM

The Western Riverside Sub-Regional Air Quality Implementation Program serves as a framework for local government implementation of the control measures contained in the AQMP. The planning effort was initiated in response to a desire among local governments to retain autonomy in implementing the AQMP control measures. The Plan includes a Model Air Quality Element that is intended to be incorporated by participating jurisdictions into their General Plan. The Implementation Program also includes four model ordinances: Development Review and Mitigation; Employment Related Trip Reduction; Particulate Emission Reduction; and Energy Conservation. Procedures necessary for local jurisdictions to implement air quality measures are also contained in the Implementation Program.

Temecula is a member of the Western Riverside Council of Governments (WRCOG) and participated in this coordinated air quality planning effort. The City's Air Quality Element incorporates the goals, policies and programs from the WRCOG that are applicable within the Planning Area. The policies and implementation programs, however, have been tailored to reflect local circumstances.

TEMECULA TRIP REDUCTION ORDINANCE

Temecula has adopted a Trip Reduction Ordinance, pursuant to requirements of the State Health and Safety Code. The Ordinance enables the City to receive revenues from vehicle registration fees to administer air pollution reduction programs. The Municipal Code also mandates the provision of carpool, bicycle, rideshare, vanpool, transit, child care, transportation system management, and/or telecommuting facilities for both new and current development projects within the City where 100 or more persons are employed. Strategies to provide these facilities are detailed in Trip Reduction Plans (TRPs) prepared by employers, either as a condition of development review, or upon issuance of a business license. Businesses with fewer than 100 employees are also encouraged to participate on a voluntary basis.



COUNTY OF RIVERSIDE AIR QUALITY ELEMENT

The Air Quality Element of the Riverside County General Plan identifies issues, goals, and programs to improve countywide air quality. The County's Air Quality Element includes policies and programs addressing each of the following topics: multi-jurisdictional cooperation, sensitive receptors, mobile pollution sources, stationary pollution sources, energy efficiency and conservation, jobs and housing, transportation demand management, transportation systems management, transportation facility development, and particulate matter.

The Riverside County Air Quality Element has no authority over the actions taken by the City of Temecula. However, the policies and programs related to the coordination of air quality planning efforts on the local and regional level have been considered and are incorporated in Temecula's Air Quality Element.

AIR QUALITY PLAN

Good air quality is vital for the health of Temecula residents. To date, most efforts at improving air quality have relied on emissions control devices and development of cleaner manufacturing and transportation technologies. While these efforts have been successful in reducing emissions, population growth experienced by the region threatens these gains. In addition, despite these improvements, federal air quality standards have not been met.

REGIONAL AIR QUALITY IMPROVEMENT

Air quality efforts are increasingly directed at the relationship between growth, land use activities, and air quality. Land use patterns directly influence transportation demand which, in turn, impacts air quality. Local government has the unique authority to regulate land use, and the South Coast Air Quality Management District (SCAQMD) calls upon local governments to implement measures to achieve emissions reductions to reduce the high ozone levels the Temecula area sometimes experiences.

PLANS IN ACTION

The City is an active participant in regional air quality planning efforts, and promotes public education regarding regional air quality issues.

The City has important roles and commitments to the implementation of the AQMP and Sub-Regional Air Quality Implementation Program. Continued efforts to provide regional public transit and high speed rail systems in the area will also lead to reductions in vehicle trips and improved air quality. Temecula will be an active participant in regional planning efforts with the County, WRCOG, SCAQMD and SCAG to support accomplishment of these objectives.



AIR QUALITY

AIR QUALITY AND LAND USE

PLANS IN ACTION

Temecula encourages development that provides both jobs and housing, applies mitigation measures to new development to reduce air pollution, and locates sensitive receptors away from potential pollution emitters.

Temecula is the lead agency for local land use decisions. As such, the City has the authority and responsibility to ensure that such decisions consider potential air quality impacts and are contingent on reliable mitigation strategies. The integral relationships between land use intensity, circulation patterns, and the reliance of residents on automobile travel make land use decisions a very important determinant of future air quality.

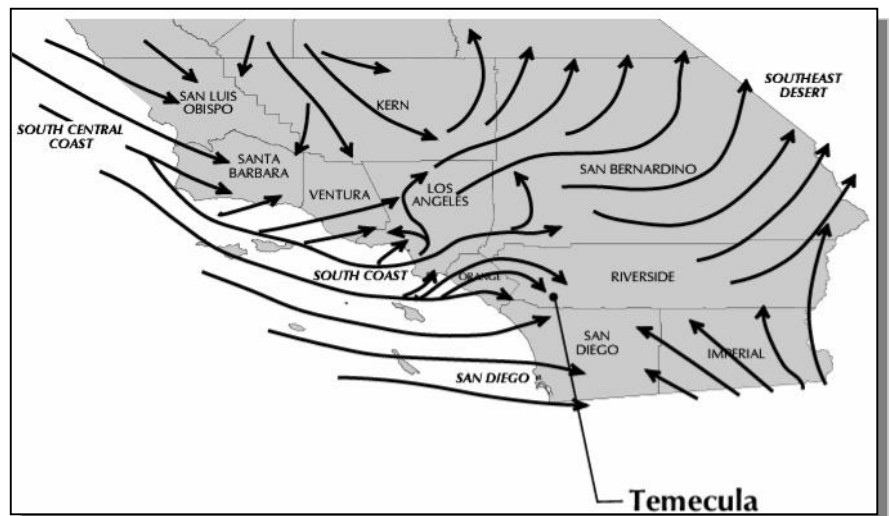
The primary tools available to the City to encourage air quality mitigation strategies are the development review process and the California Environmental Quality Act (CEQA). The City will continue to encourage development that provides both employment and housing opportunities so that residents do not have to drive long distances between home and work. Promoting infill housing, encouraging development of Mixed Use Overlay Areas, and minimizing potential land use conflicts between pollution emitters and sensitive receptors (identified in Figure AQ-2) are additional strategies the City will use to contribute to regional reductions in air pollutants.

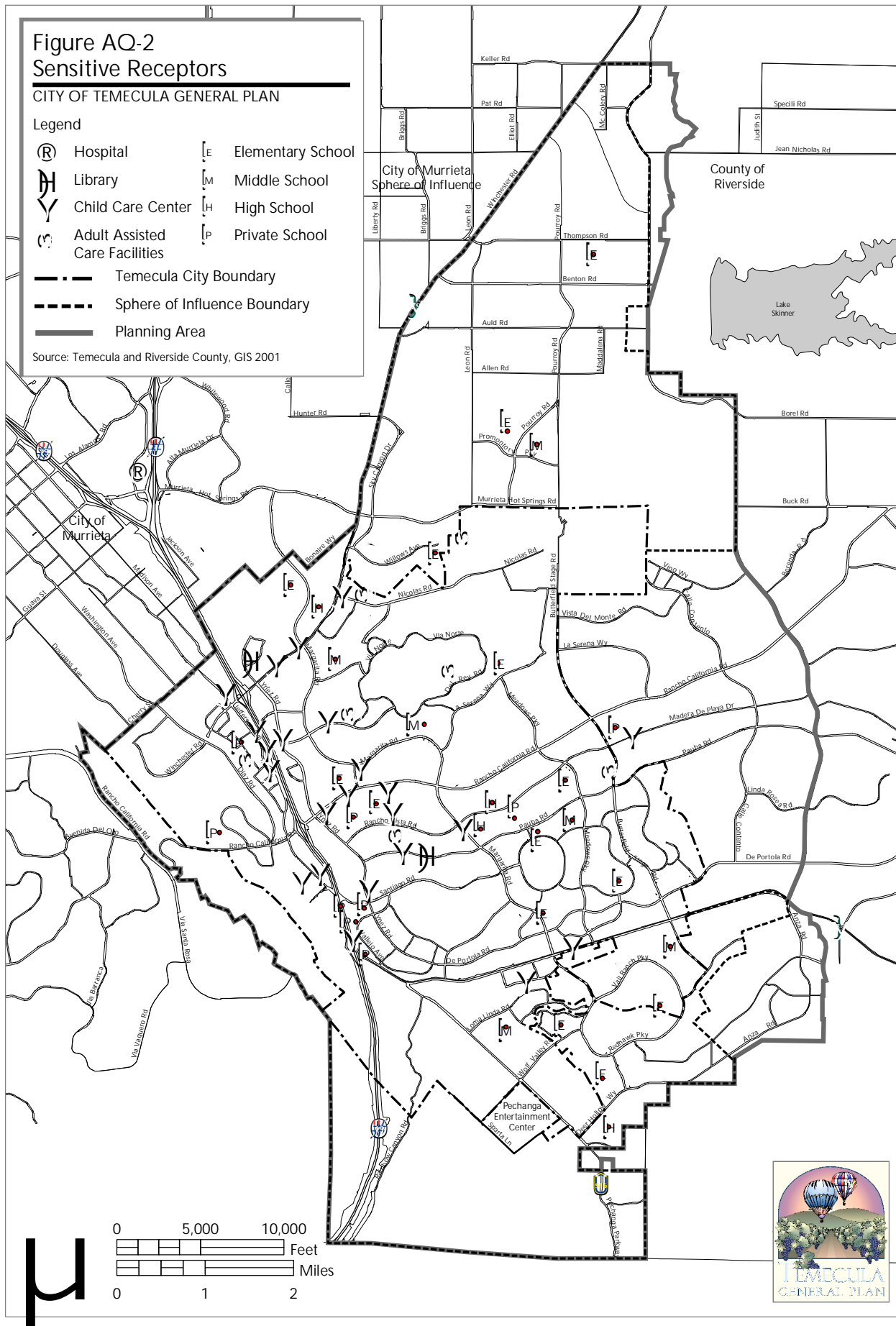
AIR POLLUTANT EMISSIONS FROM AUTOMOBILES

Riverside County generates the lowest volume of annual emissions of any county in the South Coast Air Basin. However, because of topographical and climatological factors, County residents are exposed to greater health risks from air pollution than other residents in the Basin. Automobile travel in Los Angeles and Orange Counties is the primary cause of air pollution in the region. Emissions are transported to western Riverside County by prevailing wind patterns (see Figure AQ-1).



FIGURE AQ-1
PREDOMINANT
SURFACE WIND
FLOW PATTERNS







AIR QUALITY

PLANS IN ACTION

The City Trip Reduction Ordinance obligates major employers to implement trip reduction strategies, including ridesharing, use of public transit, telecommuting, transportation systems management, child care, public education, and other measures.

ENERGY CONSERVATION

PLANS IN ACTION

Temecula also promotes energy conservation by enforcing building codes, encouraging provision of electric vehicle charging areas, and conserving energy in public buildings.

The main City strategies to reduce automobile emissions are continued enforcement of the Trip Reduction Ordinance and development of additional local employment opportunities. The City will also continue to pursue development of a local public transit system. The network of bicycle and pedestrian trails within the City will be enhanced, as specified in the Multi-Use Trails and Bikeways Master Plan. Coordination with Caltrans and RTA to identify sites for potential park and ride facilities can encourage ridesharing and potentially alleviate traffic congestion at major intersections near the Winchester Road/I-15 interchange. These combined actions are expected to achieve a 12 percent reduction in vehicle miles traveled, as specified in the Trip Reduction Ordinance.

Energy requirements and pollutants associated with the production of energy can be reduced through innovative architectural design, building construction, structural orientation and landscaping. The City will require use of the following methods to help create sustainable buildings that consume less fossil fuel.

- Optimize building sites and orientation to take advantage of shading and windbreak trees and reduce fuel consumption for heating and cooling.
- Design buildings to optimize natural lighting, provide for task lighting, and specific high-efficiency electric lighting.
- Encourage both public and private projects to exceed Title 24 requirements.

The relationship between project design and future energy requirements should be considered when reviewing proposals for new development.

GOALS AND POLICIES

These goals and policies address four major issues: 1) achieving improvements to regional air quality, 2) integration of air quality issues into land use planning decisions, 3) reducing air pollutant emissions from automobiles, and 4) conserving energy.



REGIONAL AIR
QUALITY
IMPROVEMENT

Air pollutants do not recognize political boundaries. Often the policies of one community may adversely impact another community. This is particularly true with respect to air pollution, and underscores the need for regional and sub-regional implementation of effective air quality strategies. Coordination among regional agencies, the business community, special interest groups, and individuals will ensure that measures with the greatest emission reduction potential are addressed.

Goal 1	Continue coordination of air quality improvement efforts in the Western Riverside area.
Policy 1.1	Coordinate planning efforts with other local, regional and State agencies, including the County of Riverside, WRCOG, SCAQMD and SCAG.
Policy 1.2	Encourage participation of local citizens, the business community and interested groups and individuals in air quality planning and implementation efforts.
Policy 1.3	Promote programs that educate the public about regional air quality issues, opportunities and solutions.

AIR QUALITY AND
LAND USE

The number, location, and type of land uses in the Temecula Planning Area have long-term air quality implications. A pattern of land uses that facilitates an efficient urban form is essential to improving and maintaining air quality. Placing complementary land uses in proximity to one another can reduce the length and number of vehicle trips. For example, neighborhood parks and schools can encourage residents to walk or bike from their home to these often-used facilities.

Goal 2	Improve air quality through effective land use planning in Temecula.
Policy 2.1	Encourage new development that provides employment opportunities for Temecula residents to improve the balance of jobs relative to housing.
Policy 2.2	Encourage infill development near activity centers, within Mixed Use Overlay Areas, and along transportation corridors.



AIR QUALITY

AIR POLLUTANT EMISSIONS FROM AUTOMOBILES

Policy 2.3 Minimize land use conflicts between emission sources and sensitive receptors.

Policy 2.4 Mitigate air quality impacts associated with development projects to the greatest extent feasible.

Automobile use is the single greatest contributor to air pollution in California. Most of our air quality problems stem from our dependence on automobiles. According to SCAG, vehicle miles traveled have increased dramatically over past decades, with mobile pollution sources comprising about 60 percent of air pollution in the region. The most effective strategy for improving air quality is making fewer automobile trips and when such trips are necessary, making them shorter. Provision and availability of alternative modes of transportation are essential to the success of this strategy. Alternative transportation demand strategies can increase the efficiency of the transportation system, reduce congestion, and improve regional air quality.

Goal 3	Enhance mobility to minimize air pollutant emissions.
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Policy 3.1 Use transportation demand reduction techniques to reduce motor vehicle trips.

Policy 3.2 Use transportation systems management techniques to maintain an orderly flow of traffic and improve mobility.

Policy 3.3 Pursue development of a public transit system consisting of local shuttle and bus routes, as well as bicycle and pedestrian trails that are linked to the regional transit network.

Policy 3.4 Establish a convenient and efficient system of bicycle routes and pedestrian walkways.

Policy 3.5 Promote the use of alternative clean-fueled vehicles, new transportation technologies, and combustion engine alternatives for personal and business use.

Policy 3.6 Develop and implement programs that reduce local traffic congestion at peak hours and during special events.



ENERGY CONSERVATION

Energy production to meet our daily cooking, heating/cooling, and electric power demands results in the emission of air pollutants. Conservation reduces demand for energy production, leading to a reduction of emission pollutants. Recycling efforts also reduce the amount of energy required for production of goods and materials.

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Goal 4	Adopt effective energy conservation and recycling practices to reduce emissions.
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Policy 4.1	Encourage community-wide reductions in energy consumption through conservation.
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Policy 4.2	Promote local recycling of wastes and the use of recycled materials.
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Policy 4.3	Encourage energy-efficient design in new development projects.
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IMPLEMENTATION PROGRAMS

The following Implementation Programs provide actions to implement Air Quality Element policies.

AQ-1 MULTI- JURISDICTIONAL COORDINATION

Support regional transit initiatives and promote development of high-speed rail service connecting Temecula to San Diego and Los Angeles. Actively participate in efforts to protect and improve air quality in the region. Attend meetings with the County of Riverside, WRCOG, SCAQMD, SCAG, and other agencies as required to support these objectives and fulfill Temecula's requirements and obligations under the AQMP and Sub-Regional Air Quality Implementation Program.

Agency/Department: Planning

Related Policy: 1.1

Required by General Plan EIR

AQ-2 PUBLIC PARTICIPATION

Continue to involve the general public, environmental groups, the business community, and special interest groups in the formulation and implementation of air quality programs. Conduct periodic public outreach efforts, and continue to promote public education as a method of employer compliance with the Trip Reduction Ordinance.



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Agency/Department: Planning
Related Policies: 1.2, 1.3
Required by General Plan EIR

AQ-3 LAND USE COMPATIBILITY

Adhere to the policies and programs of the Land Use Element, including development of mixed-use projects where designated and feasible, to ensure that future land use patterns and traffic increases are accompanied by measures to improve air quality.

Agency/Department: Planning
Related Policy: 2.3
Required by General Plan EIR

AQ-4 JOBS/HOUSING BALANCE

Improve the jobs/housing balance in Temecula by encouraging development and expansion of businesses, while also promoting development of housing affordable to all segments of the community near job opportunity sites, and within Mixed Use Overlay Areas.

Agency/Department: City Manager's Office, Planning
Related Policies: 2.1, 2.2
Required by General Plan EIR

AQ-5 MITIGATION MEASURES

Assess the potential air quality impacts of individual development projects by requiring preparation of air quality analysis for individual projects. The City shall require individual development projects to comply with the following measures to minimize short-term, construction-related PM10 and NOx emissions, and to minimize off-site impacts:

- Water all active construction areas at least twice daily.
- Cover all haul trucks or maintain at least two feet of freeboard.
- Pave or apply water four times daily to all unpaved parking or staging areas.
- Sweep or wash any site access points within 30 minutes of any visible dirt deposition on any public roadway.
- Cover or water twice daily any on-site stockpiles of debris, dirt or other dusty material.
- Suspend all operations on any unpaved surface if winds exceed 25 mph.



- Hydroseed or otherwise stabilize any cleared area which is to remain in active for more than 96 hours after clearing is completed.
- Ensure that all cut and fill slopes are permanently protected from erosion.
- Require the construction contractor to ensure that all construction equipment is maintained in peak working order.
- Limit allowable idling to 10 minutes for trucks and heavy equipment.
- Encourage car pooling for construction workers.
- Limit lane closures to off-peak travel periods.
- Park construction vehicles off traveled roadways.
- Wet down or cover dirt hauled off-site.
- Wash or sweep away access points daily.
- Encourage receipt of materials during non-peak traffic hours.
- Sandbag construction sites for erosion control.

Approve development that could significantly impact air quality, either individually or cumulatively, only if it is conditioned with all reasonable mitigation measures to avoid, minimize, or offset the impact.

Agency/Department: Planning

Related Policy: 2.4

Required by General Plan EIR

**AQ-6
SENSITIVE
RECEPTORS**

Locate new sensitive receptors away from major air pollution sources. Require buffering of sensitive receptors from air pollution sources through the use of landscaping, open space and other separation techniques.

Agency/Department: Planning

Related Policies: 2.3, 2.4

Required by General Plan EIR

**AQ-7
DESIGN
GUIDELINES**

Incorporate strategies into City-wide design guidelines and development standards that promote a pedestrian-scale environment, encourage use of mass transit, and reduce dependence on the automobile.



AIR QUALITY

Agency/Department: Planning
Related Policies: 3.1, 3.4
Required by General Plan EIR

AQ-8 ALTERNATIVE WORK SCHEDULES

Promote the use of alternative work weeks, flextime, telecommuting, and work-at-home programs among employers in Temecula and continue to enforce provisions of the City's Trip Reduction Ordinance, including requirements for preparation of Trip Reduction Plans (TRPs) for qualifying development projects and employers.

Agency/Department: Planning, Public Works
Related Policies: 3.1, 3.6
Required by General Plan EIR

AQ-9 RIDESHARE AND TRANSIT INCENTIVES

Require employee rideshare and transit incentives for large employers, consistent with the requirements of the City's Trip Reduction Ordinance. Continue to encourage voluntary compliance with the Ordinance for smaller employers.

Agency/Department: Planning
Related Policies: 3.1, 3.6
Required by General Plan EIR

AQ-10 SPECIAL EVENTS

Require operators of large scale outdoor events to submit a Trip Reduction Plan (TRP) that shall apply to both patrons and employees during the course of the event. Encourage special event operators to advertise and offer discount parking incentives to carpooling patrons, with two or more persons per vehicle, for on-site parking facilities.

Agency/Department: Planning
Related Policies: 3.2, 3.6
Required by General Plan EIR

AQ-11
TRANSPORTATION
ALTERNATIVES

Work to achieve local performance goals for vehicle miles traveled (VMT) reduction, consistent with SCAG's Growth Management Plan recommended standards for the Western Riverside County sub-region. Enforce requirements and options within the Trip Reduction Ordinance to achieve a 12 percent citywide reduction in vehicle miles traveled.

Agency/Department: Planning
Related Policies: 3.1, 3.3, 3.4

Required by General Plan EIR

AQ-12
ALTERNATIVE
FUELED VEHICLES

Promote and encourage the use of alternative fuel vehicles. Consider adoption of an ordinance requiring provision of alternative fueling stations at or near major employment locations, shopping centers, public facilities, and mixed-use developments.

Agency/Department: Planning
Related Policy: 3.5

Required by General Plan EIR

AQ-13
MULTI-USE TRAILS
AND BIKEWAYS
MASTER PLAN

Encourage pedestrian and bicycle trips as an option to single-occupancy vehicle trips by constructing and maintaining trails and bikeways specified in the Multi-Use Trails and Bikeways Master Plan. Periodically update the Master Plan as needed to meet resident needs and City objectives.

Agency/Department: Community Services, Public Works;
Planning
Related Policy: 3.3

Required by General Plan EIR

AQ-14
PARK AND RIDE
FACILITIES

Work with Caltrans and RTA to identify potential sites for Park and Ride facilities adjacent to key commuting routes within the City. Prioritize development of such facilities in corridors served by more than one mode of planned transportation (automobile, transit, and/or high-speed rail).

Agency/Department: Public Works, Planning, Caltrans, RTA
Related Policy: 3.6

Required by General Plan EIR



AQ-15
ENERGY EFFICIENT
DESIGN

Incorporate energy efficient design elements in residential, commercial and light industrial and mixed-use development projects. Examples may include (but are not limited to) the following.

- Site orientation strategies that use shade and windbreak trees to reduce fuel consumption for heating and cooling.
- Building designs that maximize use of natural lighting, provide for task lighting, and specify high-efficiency electric lighting.

Agency/Department: Planning, Building & Safety

Related Policies: 4.1, 4.2, 4.3

Required by General Plan EIR
